TWO KNIGHTS A-JOG

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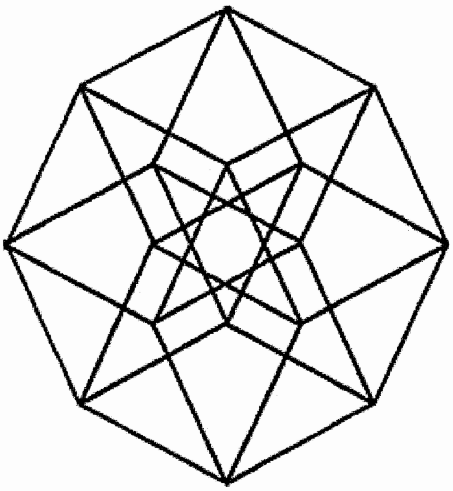
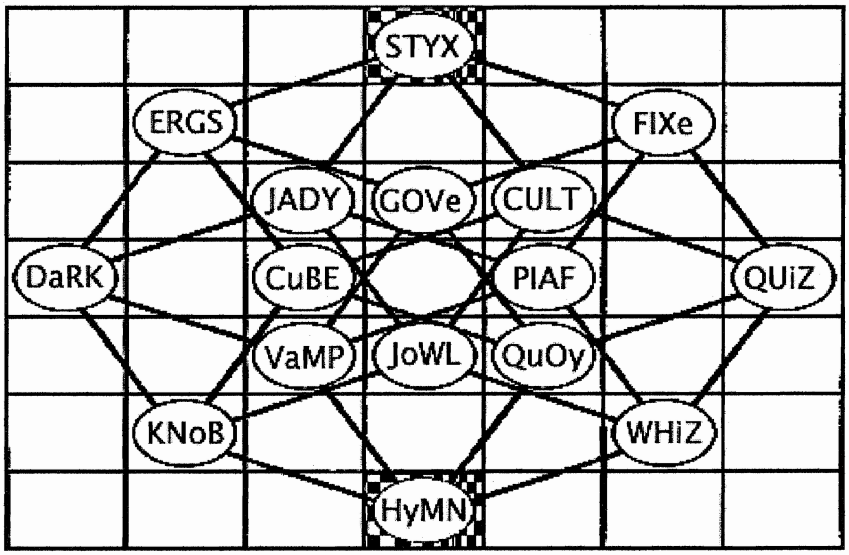
On a 7 x 7 chessboard, a knight moves from the central square in the bottom row to the central square in the top row in four jumps. There are a number of different routes it can take, and in his article "Three Jog Knight" in the August *Word Ways*, Harold Jacobs wondered whether readers could mentally envision the composite network formed by all of these routes without having to draw a picture of it. (The lovely and mysterious lattice that emerges is shown at top left in the figure on the next page.)

In a happy afterthought, the editor added an alphabetical component and a new challenge to Jacobs' query. There are 16 nodes in the four-jog knight's network, with each node being connected to four other nodes by knight jumps. Let four letters be assigned to each node, with each letter being shared with one of that node's four connecting nodes. Since a given version of a letter may only appear in the network twice, a total of 32 different versions of letters will be needed to furnish the 16 nodes with four letters apiece, and the editor suggested that each of the 26 letters of the alphabet plus one additional iteration of each of the six vowels be used to make up this total. The challenge, of course, was to distribute the available letters among the nodes in such a way that the four letters in each node could be arranged to form an acceptable word.

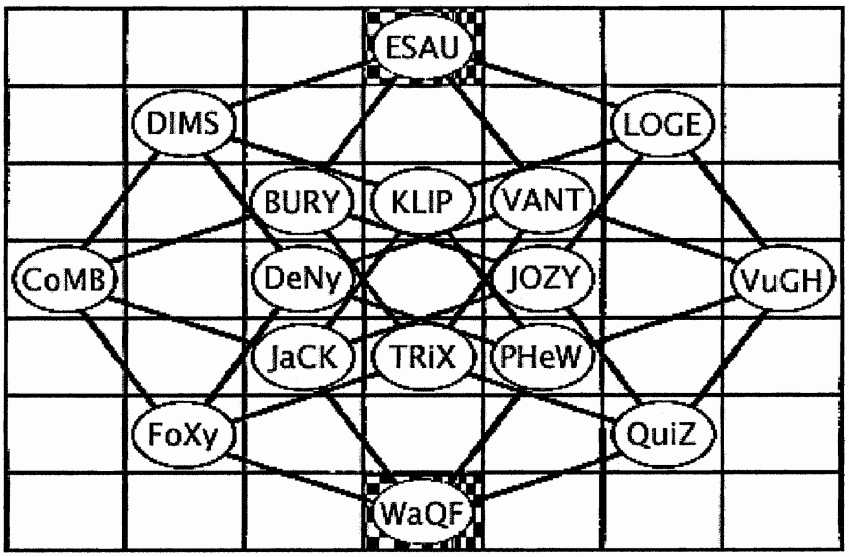
As of this writing, three solutions to the puzzle have been forthcoming: the editor had already had one in hand, Ross Eckler submitted one on the same day that he received his August Word Ways, and I sent one in several weeks later. I suggested, and the editor agreed, that it might be interesting to publish all three solutions for comparison purposes, and thus all three of them are shown over the next two pages. With the exception of (singer Edith) PIAF, all of the words in these solutions may be found within the second or third editions of the Merriam-Webster unabridged dictionaries. In mine, 14 of the 16 words are listed in Webster's 11th New Collegiate Dictionary, the exceptions being FRIZ and JYNX (both in Webster's NI3). It is possible, however, that I gave myself a slightly easier task when, instead of a second "Y," I opted to use a second "S," in order that my cadre of letters might spell out the sentence, "HOW QUICKLY DAFT JuMPiNG ZEBRaS VeX so"—which sentiment, by the way, I found to be a very nearly apt title for this little exercise! In all three solutions, all of the second-use letters are shown in lower case, a distinction which needs to be drawn because those letters actually function as different characters in the puzzle; as far as the puzzle is concerned, e.g., the word TOoL is a heteronym.

In comparing the three solutions, what strikes me most is their general dissimilarity. The few correspondences between them are quickly mentioned: most tellingly, perhaps, the two most recent editors of *Word Ways* both selected QUIZ as one of their two "Q" words. In addition, Ross and I each turned up a JACK for a "J" word, and Jerry and I headed up our solutions with the similar words STYX and JYNX. But for the most part, disparity reigns among these solutions, which may be an indication of the existence of many different possible solutions to this puzzle within the scope of unabridged dictionaries. Can anyone suggest any other, or contrary, inferences that might be drawn from these results?

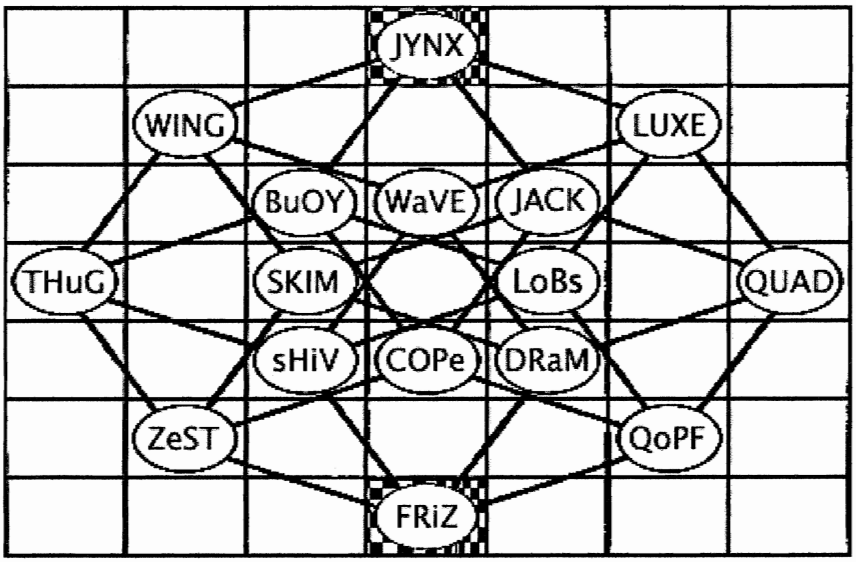




JEREMIAH FARRELL'S SOLUTION



ROSS ECKLER'S SOLUTION

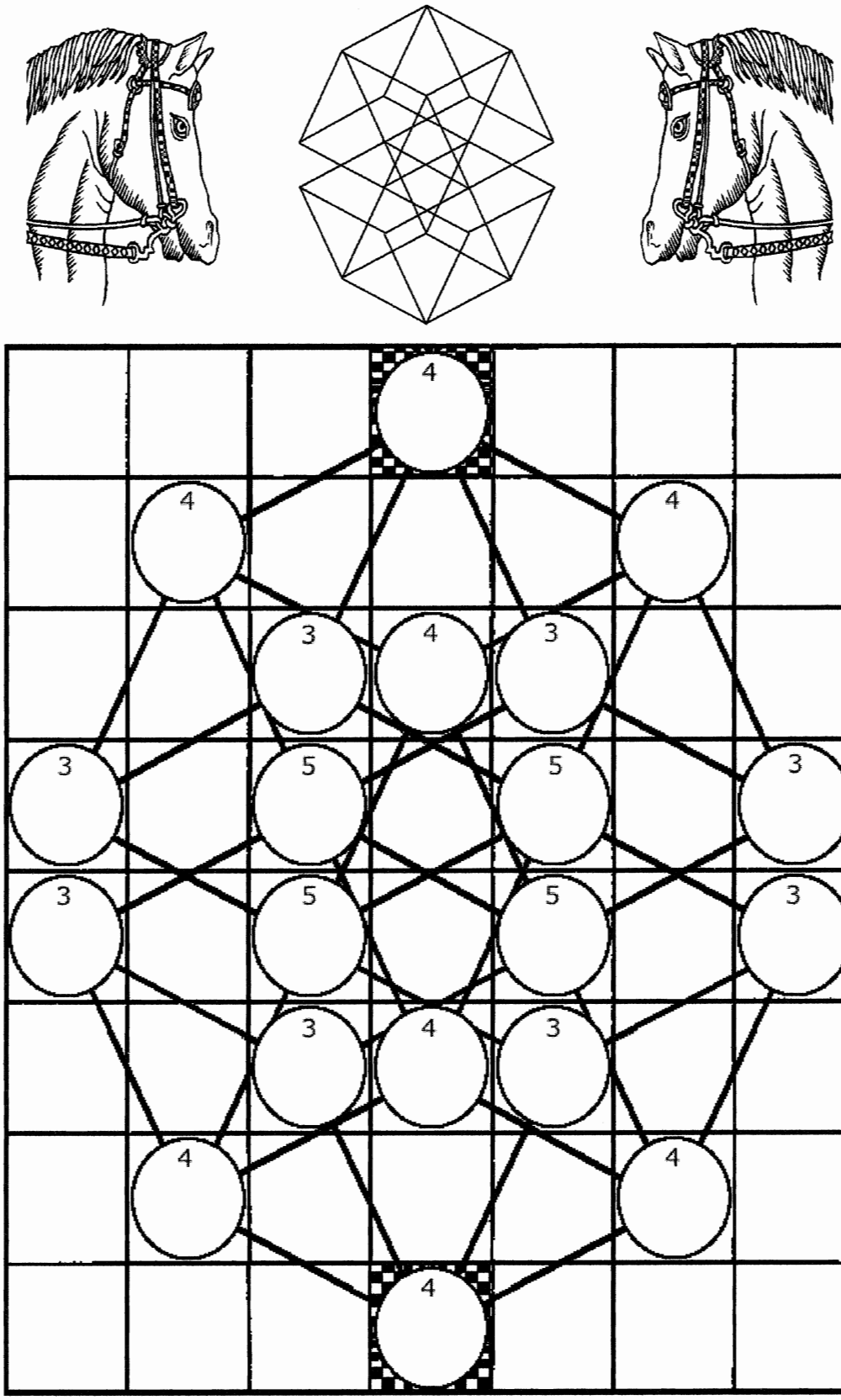


HOW QUICKLY DAFT JuMPiNG ZEBRaS VeX so!

For anyone who may be interested, a new puzzle of this kind—call it the 5-Jog Knight's Puzzle, though some might rate it as more of a 4½—is offered on the next page. The network in this one is a composite of all the routes by which a knight might bound between the central squares of the top and bottom rows of a 7 x 8 chessboard in five easy equine *jetés*. All is the same as in the previous puzzle except that there are now 20 nodes to be filled with letters, and the number of letters per node varies from three to five (as indicated by the numbers in the node circles). As before, each node must share a different one of its letters with each of the neighboring nodes to which it is connected by knight moves, and once again the object is to form a word at each node. A total complement of 38 different characters is needed for the puzzle; regarding its composition, let's say that every letter of the alphabet must appear in the solution at least twice, and that no letter may appear more than four times. This means that solvers will have a total of just 24 vowels to distribute among 20 words—not an easy task, but hopefully a manageable one. (Not yet having attempted a solution, I can't be sure that it is, but as soon as I can find my *crwth*...)

As a prize for the "best" solution received, I am offering a copy of Henry P. Judd's *The Hawaiian Language and Hawaiian-English Dictionary.* (Anyone who is at all fond of vowels should have a lexicon of Hawaiian in their library.) For this contest, let's say that the "best" solution is the one that contains the most words to be found in any edition of Webster's Collegiate Dictionary. (Solvers who have access to a Collegiate, please count these for me!) In case of a tie, priority of entry decides the winner. Solutions should be sent to me (not to *Word Ways*) at my email address shown above. Please email solutions as attachments—if sent in the body of the email, they are likely to be scrambled in transmission. If you are sending a scanned photocopy of your solution, please reduce its size somewhat and be sure that its format is JPEG. Mailing addresses needn't be included; if you are the prize winner, I will email you to ask for a mailing address. The deadline for contest entries is Monday, January 5, 2009. Unless otherwise requested, any correct solution received by the deadline will be published in the February 2009 *Word Ways*.

Who shall indite aright this course partite for a five-jog knight?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